

REMARKS

Claims 1, 3-9, 11-17, and 19-24 stand rejected as being anticipated by U.S. Patent No. 5,450,622 (hereinafter Vandegraaf). Claims 2, 10 and 18 stand rejected as unpatentable over Vandegraaf in view of U.S. Pat. No. 6,694,010 (hereinafter Verreault. Reconsideration of the rejections is solicited in view of the foregoing amendments and the following remarks.

Regarding any rejection under §102, it is noted that the test for anticipation is whether all the elements and operational relationships of the rejected claim are found within a single prior art reference. There must not be any differences between the claimed invention and the reference disclosure as viewed by a person of ordinary skill in the art. Absent from the reference, disclosure of any claim element and/or operational interrelationship negates anticipation under §102.

Claim 1 is directed to a squelch circuit and was amended to further emphasize aspects of the present invention. Claim 1, in part, recites an integrating digital filter coupled to receive the output signal from an absolute value detector and supply a first integrated signal during a first mode of operation of the squelch circuit. The integrating digital filter further supplies a second integrated signal during a second mode of operation of the squelch circuit. The integrating filter is responsive to at least one selectable filter coefficient indicative of an integration response time of the integrating filter.

Claim 1 further recites a control module configured to select a first numerical value for the selectable filter coefficient so that during the first mode of operation of the squelch circuit a first integration response time of the integrating filter is sufficiently fast to determine the power level of the first integrated signal over a predefined time interval relative to respective squelch thresholds. The control module is further configured to select a second numerical value for the selectable filter coefficient so that during the second mode of operation subsequent to the first mode of operation a second integration response time of the integrating filter is sufficiently slow relative to the first integration response

time of the integrating filter to smooth out power level variations, if any, in the second integrated signal. Thus, a key aspect of the claimed invention is the ability to selectively (e.g., dynamically) change the integration response time of the integration filter.

Vandegraaf is directed to a squelch circuit and uses an operational amplifier (op-amp) U1 during certain times as an integrator. The transfer function when op-amp U1 operates as an integrator is defined in terms of a simple one pole RC low-pass filter. See Vandegraaf at col. 4, line 60 through col. 5, line 11. More specifically, the time constant for Vandegraaf's integrator is fixed and is defined in terms of the physical circuit components therein as $T=C1 \times R4$. Vandegraaf does not use an integrating filter responsive to a selectable filter coefficient for selectively changing the integration response time of the integrator. Vandegraaf shows a switch S1 connected to op-amp U1. When switch S1 is closed, the output of op-amp U1 is shorted to its inverting input 28 and V_{out} becomes equal to V_{ref} regardless of the input signal V_{in} from the noise rectifier 16. See Vandegraaf at col. 5, line 14 et. seq. Clearly, this switching is not for performing an integration operation and is merely done for setting the initial conditions in op-amp U1. See Vandegraaf at col. 5, line 33 et. seq. As Vandegraaf expressly states "since the output of integrator U1 is initialized at a level that is already close to the comparator threshold, a long RC time constant can be used for implementing the noise-integrating filter without experiencing an excessive integration delay time to establish whether a carrier signal is present." Vandegraaf col. 6, line 11 et. seq. This, if anything teaches away from the present invention, since Vandegraaf does not provide any mechanism for changing the time constant of his filter. The technique of Vandegraaf regarding the operation of his integrating filter is simply to adjust the value for the initial conditions in his integrator so as to avoid an excessive integration delay time. Thus, the basic fact remains that Vandegraaf does not provide an integrating filter having a dynamically selectable integration response time since the time constant for his integrator is fixed. That is, $T=C \times R$. Again, when switch S1 is closed, op-amp U1 appears to function as voltage follower for setting a desired

value for the initial conditions in op-amp U1 but does not function as an integrator, much less as an integrator having a different time constant than as determined by $T=C \times R$. Vandegraaf also uses a second op-amp U2 that operates as a comparator. The operation of such a comparator is directed to comparing the output signal from op-amp U1 relative to specific voltage thresholds and has nothing to do with changing the time constant of op-amp U1.

In view of the foregoing remarks, it is respectfully submitted that Vandegraaf fails to anticipate independent claim 1 under the statutory standards of §102 or renders claim 1 otherwise unpatentable. Since each of the dependent claims from independent claim 1 includes the structural and/or operational relationships respectively recited in such independent claim, it is also respectfully submitted that Vandegraaf also fails to anticipate or obviate each of such dependent claims.

Independent claim 9 is directed to a method for squelch control in a radio receiver and was similarly amended to further emphasize aspects of the present invention. In view of the foregoing discussion, it is respectfully submitted that Vandegraaf also fails to anticipate or obviate the structural and/or operational relationships recited in independent claim 9.

Independent claim 17 is directed to a computer-readable medium including instructions causing a computer to control squelch in a radio receiver. Claim 17 was similarly amended to further emphasize aspects of the present invention. In view of the foregoing discussion, it is respectfully submitted that Vandegraaf also fails to anticipate or obviate the structural and/or operational relationships recited in independent claim 17.

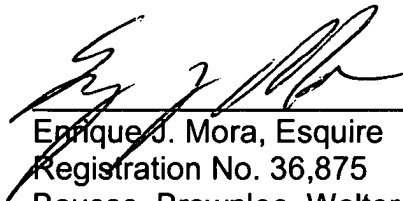
In connection with dependent claims 2, 10 and 18, it is respectfully noted that the secondary reference, Verreault, is directed to a method that purportedly allows recognition of a single frequency tone in a signal. Thus, Verreault appears to use a recursive filter for matching the transfer function of the filter to the spectral components of the analyzed signal. However, Verreault fails to overcome the fundamental deficiencies of Vandegraaf regarding the structural and operational relationships for the claimed integrating filter. Consequently,

neither Vandegraaf nor Verreault, singly or in combination, renders unpatentable the foregoing claims.

It is respectfully submitted that each of the claims pending in this application recites patentable subject matter and it is further submitted that such claims comply with all statutory requirements and thus each of such claims should be allowed.

The applicant appreciates the Examiner's efforts for conducting a thorough examination, and cordially invites the Examiner to call the undersigned attorney if there are any outstanding items that may be resolved via telephone conference.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Enrique J. Mora", is written over a horizontal line.

Enrique J. Mora, Esquire
Registration No. 36,875
Beusse, Brownlee, Wolter, Mora & Maire, P.A.
390 North Orange Avenue, Suite 2500
Orlando, Florida 32801
Telephone: (407) 926-7705
Facsimile: (407) 926-7720